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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,062	04/28/2005	Tadaaki Tanimoto	TAM-104	3125

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EXAMINER
SANDOVAL, PATRICK

ART UNIT	PAPER NUMBER
2825	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/533,062	TANIMOTO ET AL.
	Examiner	Art Unit
	PATRICK SANDOVAL	2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *RCE filed 12/22/2008*.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-4 and 6* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-4 and 6* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a) ☐ All   b) ☐ Some * c) ☐ None of:

   1. ☐ Certified copies of the priority documents have been received.

   2. ☐ Certified copies of the priority documents have been received in Application No. _____.

   3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   This Office Action responds to Applicant's RCE filed 12/22/2008. Claims 1 and 6

are amended. Claims 1-4 and 6 are pending.

Continued Examination Under 37 CFR 1.114

2.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114.   Applicant's submission filed on

12/22/2008 has been entered.

Response to Amendment

3.   Applicant's arguments, see Remarks Pages 5-7, filed 12/22/2008, ***with respect***

to the rejection(s) of claim(s) 1-4 and 6 under 35 USC 103(a) have been fully

considered but they are not persuasive. The applicable rejections of claims 1-4 and 6

are incorporated herein.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

5.   **Claims 1-4 and 6 are rejected** under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention.

6.   Claims 1 and 6 recite the limitation "wherein restrictions which are…" in line 14 of

each respective claim. There is insufficient antecedent basis for this limitation in the

claim. The term "wherein" is further a limiting term, however, the term "restrictions"

does not clearly refer back to any claim limitations for further limitation. Is this meant to

be "real-time restriction" as in claim 1 (line 5) and claim 14 (line 6)?

7.   Regarding the limitation "inhibition of dynamic instantiation", how is dynamic

instantiation inhibited? Is there a particular constraint or limitation by which instantiation

is inhibited? Dynamic instantiation of what?

8.   Regarding the limitation "inhibition of a start method call…", again how is a start

method call "inhibited"? Start method of/for what? Calling of what?

9.   Although the claims are interpreted in light of the specification, limitations from

the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26

USPQ2d 1057 (Fed. Cir. 1993).

Claim Rejections - 35 USC § 103

10.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

11.   **Claims 1-4 and 6 are rejected** under 35 U.S.C. 103(a) as being unpatentable

over Bowen (US 6,691,301) in view of Panchul et al. (US2001/0034876), further in view

of Hines (2005/0246682).

12.   **Pursuant to claims 1 and 6,** Bowen discloses:

inputting program descriptions which define a plurality of devices by employing a

program language capable of describing parallel operations (Bowen, Col. 1, ll. 47-61,

Col. 9, ll. 63-67 – Col. 10, ll. 1-43);

converting the input program descriptions into an intermediate expression

(Bowen, Col. 44, ll. 25-55, compile Handel-C to VHDL);

generating parameters which satisfy a real-time restriction, for the

intermediate expression (Bowen, Col. 9, ll. 55-67 – Col. 10, ll. 1-11, requirements, Col.

229, ll. 9-51, behavioral description and varying parameters); and

synthesizing circuit descriptions which are based on a hardware description

language (Bowen, Col. 44, ll. 25-55, compile Handel-C to VHDL, RTL synthesis), on the

basis of the generated parameters (Bowen, Col. 229, ll. 9-51, behavioral description and

varying parameters);

wherein the program descriptions define the devices on a single bus by using a

run method of the program language (Bowen, Col. 10, ll. 22-44, high-level language

abstractions or models, wherein features include ability to define a bus);

wherein in the run method, program codes which are to be executed in a thread

constituting a multi-thread are described (Bowen, Col. 25, ll. 44-52, wherein Handel-C is

a parallel language allowing parallel thread implementation); and

wherein restrictions which are an inhibition of dynamic instantiation (Bowen, Col.

78, ll. 56-65, wherein only light models can instantiate child models) and an inhibition of

a start method call from the run method are imposed on the program descriptions by

employing a program language (Bowen, Col. 58, ll. 14-33, 45-49, Col. 59, ll. 48-67 - Col.

60, II. 1-15, wherein the simulator calls particular functions at simulation starts or when the simulator shuts down, Col. 71, II. 3-7, wherein multiple simulators used in cosimulation written (in Handel-C, VHDL, C or whatever), models can be simulated independently of any other part of a cosimulation arrangement, Col. 78, II. 56-67 - Col. 79, II. 1-10, wherein simulation can begin after the hierarchy of models created during initialization have been flattened out, wherein simulators are able to register wake-up calls for simulating internally timed logic and wherein the simulators may be woken up earlier if another simulator triggers off an event).

13.   Bowen does not disclose:

        wherein the program language employed is a Java program language; and

        defining clock synchronizations of the device by using barrier synchronizations.

14.   Panchul discloses algorithmic representation of preliminary hardware design in high-level language such as Java (Panchul, Paragraphs 22, 112) with parallel processing of functions (Panchul, Paragraphs 62-63, 152).

15.   Hines discloses defining clock synchronizations of devices by using barrier synchronizations (Hines, Paragraphs 255-261).

16.   It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to substitute any standard C-type programming language such as Java, ANSI C, C++, etc. with the high-level language as taught by Bowen for flexibility amongst designers/programmers

17.   It would have been obvious to one of ordinary skill in the art at the time of
Applicant's invention to incorporate barrier synchronizations of Hines in order to enforce
synchronization of activities (Hines, Paragraphs 255-261).

18.   **Pursuant to claim 2**, Bowen in view of Panchul et al., further in view of Hines
discloses wherein an intermediate expression is a member selected from the group
consisting of a concurrent control flow flag, a temporal automaton with a concurrent
parameter, and a temporal automaton with parameters (Hines, Paragraphs 649–673,
behavioral automata to avoid hazards through the use of built-in causality semantics).

19.   **Pursuant to claim 3,** Bowen in view of Panchul et al., further in view of Hines
discloses wherein parametric model checking is performed for the parameter generation
(Bowen, Col. 83, ll. 15-59, compile-time or run-time checking).

20.   **Pursuant to claim 4,** Bowen in view of Panchul et al., further in view of Hines
discloses wherein the real-time restriction is given by RPCTL (Hines, Paragraphs 198-
205, runtime constraints, runtime algorithms).

Remarks

21.   Applicant argues that Bowen does not disclose the newly added claim limitations
of claims 1 and 6. The Examiner is not persuaded.

22.   Bowen discloses:

        wherein restrictions which are an inhibition of dynamic instantiation (Bowen, Col.
78, ll. 56-65, wherein only light models can instantiate child models), and

        an inhibition of a start method call from the run method are imposed on the
program descriptions by employing a program language (Bowen, Col. 58, ll. 14-33, 45-

49, Col. 59, II. 48-67 - Col. 60, II. 1-15, wherein the simulator calls particular functions at simulation starts or when the simulator shuts down, Col. 71, II. 3-7, wherein multiple simulators used in cosimulation written (in Handel-C, VHDL, C or whatever), models can be simulated independently of any other part of a cosimulation arrangement, Col. 78, II. 56-67 - Col. 79, II. 1-10, wherein simulation can begin after the hierarchy of models created during initialization have been flattened out, wherein simulators are able to register wake-up calls for simulating internally timed logic and wherein the simulators may be woken up earlier if another simulator triggers off an event).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Sandoval whose telephone number is 571-272-7973. The examiner can normally be reached on 8:00 am to 5:30 pm Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Chiang can be reached on 571-272-7483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Patrick Sandoval/

Examiner, Art Unit 2825

/Vuthe Siek/
Primary Examiner, Art Unit 2825